



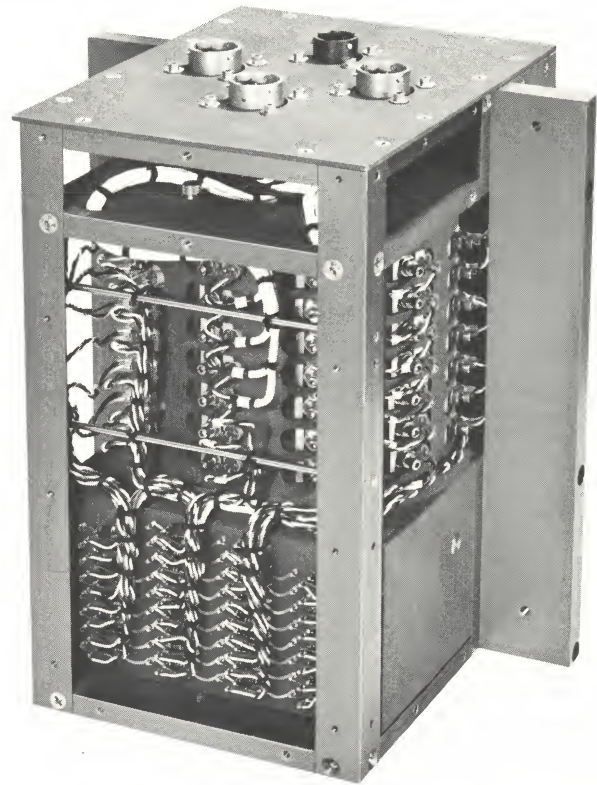
D50

SERIES

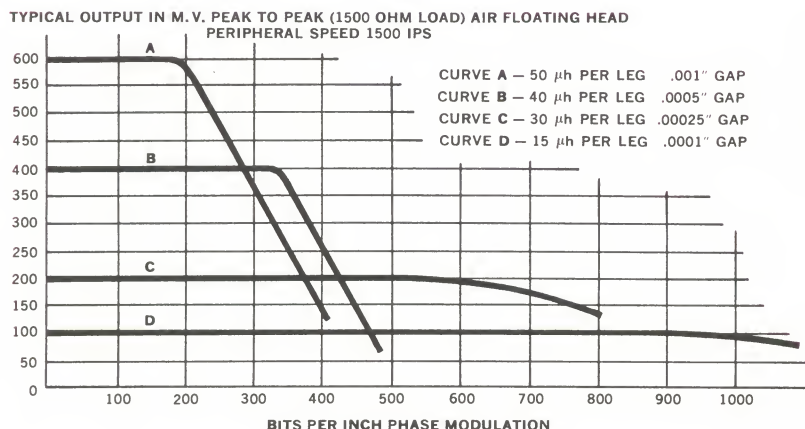
AIRBORNE MAGNETIC MEMORY DRUMS

FEATURES:

- **DEPENDABILITY:** *Plated metal magnetic coating provides the optimum recording surface—hard and durable.*
- **CONVENIENCE:** *Record-play heads may be inserted while the drum is running, with no radial adjustment.*
- **CAPACITY:** *Bit packing densities to 2000 per inch NRZ (1000 per inch phase modulation, R.B., or R.Z.)*
- **SIGNAL TO NOISE RATIO:** *26 db.*
- **VERSATILITY:** *Compliance with applicable military specifications—ground, shipboard, airborne.*



Typical D50 Series drum—4" diameter, 3600 RPM.
Other diameters available in the
D50 Series from 3" to 6".



A PLAYBACK SIGNAL VERSUS PACKING DENSITY GRAPH shows output signal levels over a wide range of frequencies. (Frequency equals peripheral speed in inches per second times packing density in bits per inch phase modulation.) Curves illustrated reflect a peripheral speed of 1500 inches per second. Different speeds produce a roughly linear change in signal level. Outputs shown on the graph are conservatively de-rated. Production experience exceeds these ratings by approximately 25%.

D50 DRUM

All drums in the small to medium size D50 Series share basic design features. Magne-Head design criteria provide superior performance: more bits per square inch of recording surface, higher output signal levels, and long term maintenance-free operation. To the systems designer, all of this means fewer interface restrictions when integrating the memory subsystem into the total system.

Magne-Head drums meet a broad range of operational requirements because of flexible design within a framework of dependability. Features and design parameters tailored to meet individual application needs include drum size, speed, and motor type...record-play head inductance, head layout, and wiring harness arrangements.

For military systems, D50 Series drums are designed to meet these typical specifications:

Ground Based: MIL-E-4970A and
MIL-E-4158B
Shipboard: MIL-E-16400E
Airborne: MIL-E-5400

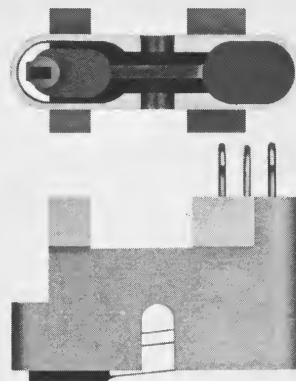
D50 DESIGN DATA

DIAMETER:	3 to 6 inches
LENGTH:	1 to 10 inches
ECCENTRICITY:	Less than .000050 inches
BEARINGS:	Class 9; factory sealed and lubricated
MOTOR:	Custom designed integral motor, induction or synchronous
ROTATION SPEED:	Speed limits are set by rotating member diameter. Maximum speed for D50 Series drums is 24,000 RPM, at a diameter of 3 inches.
TRACKS PER INCH:	40 nominal
TOTAL STORAGE CAPACITY:	Approximate storage capacity ranges between these limits, according to drum size: 3" diameter x 1" length—270,000 bits phase modulation 6" diameter x 9" length—5,400,000 bits phase modulation
MAXIMUM CLOCK RATE:	2 megacycles
MAGNETIC MEDIUM:	Hard nickel-cobalt plate. By becoming an integral part of the rotating member, the plated surface eliminates dusting and flaking problems inherent with iron oxide coatings. Extreme surface hardness greatly reduces susceptibility to catastrophic failure should foreign matter come in contact with the rotating member.

RECORD-PLAY HEADS

The unique aerodynamic head developed by Magne-Head cuts installation and adjustment time to a fraction of that required for conventional, non-contact heads. To add or replace a head, simply insert it at the desired location and lock it in place, *all without stopping the drum*. Head and head slot design make it virtually impossible to damage either the head or the drum coating during the installation process.

Electrical specifications such as head inductance and drive current requirements may be varied to suit the application.





D500 SERIES MAGNETIC MEMORY DRUMS

FEATURES:

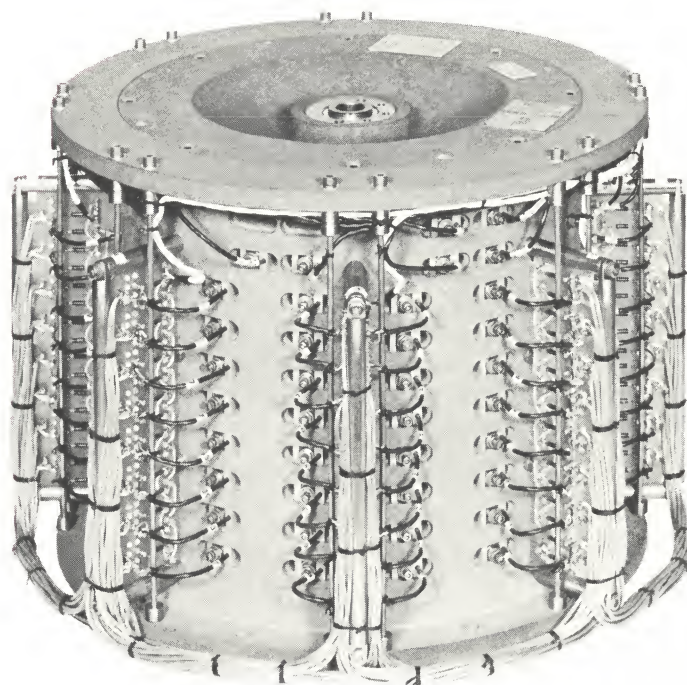
● **DEPENDABILITY:** *Plated metal magnetic coating provides the optimum recording surface—hard and durable.*

● **CONVENIENCE:** *Record-play heads may be inserted while the drum is running, with no radial adjustment.*

● **CAPACITY:** *Bit packing densities to 2000 per inch NRZ (1000 per inch phase modulation, R.B., or R.Z.)*

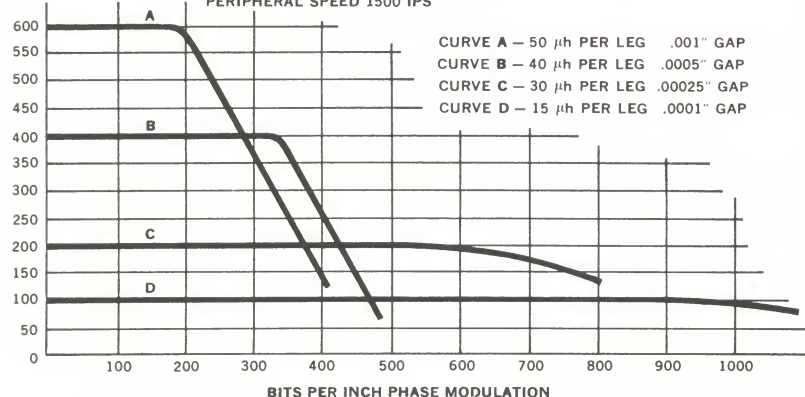
● **SIGNAL TO NOISE RATIO:** *26 db.*

● **VERSATILITY:** *Compliance with applicable military specifications—ground, shipboard, airborne.*



Typical D500 Series drum—9" diameter, 3600 RPM.
Other diameters available in the D500 Series
from 6" to 12".

TYPICAL OUTPUT IN M.V. PEAK TO PEAK (1500 OHM I.OAD) AIR FLOATING HEAD
PERIPHERAL SPEED 1500 IPS



A PLAYBACK SIGNAL VERSUS PACKING DENSITY GRAPH shows output signal levels over a wide range of frequencies. (Frequency equals peripheral speed in inches per second times packing density in bits per inch phase modulation.) Curves illustrated reflect a peripheral speed of 1500 inches per second. Different speeds produce a roughly linear change in signal level. Outputs shown on the graph are conservatively de-rated. Production experience exceeds these ratings by approximately 25%.

D500 DESIGN DATA

All drums in the medium size D500 Series share basic design features. Magne-Head design criteria provide superior performance: more bits per square inch of recording surface, higher output signal levels, and long term maintenance-free operation. To the systems designer, all of this means fewer interface restrictions when integrating the memory subsystem into the total system.

Magne-Head drums meet a broad range of operational requirements because of flexible design within a framework of dependability. Features and design parameters tailored to meet individual application needs include drum size, speed, and motor type...record-play head inductance, head layout, and wiring harness arrangements.

For military systems, D500 Series drums are designed to meet these typical specifications:

Ground Based: MIL-E-4970A and
MIL-E-4158B

Shipboard: MIL-E-16400E

Airborne: MIL-E-5400

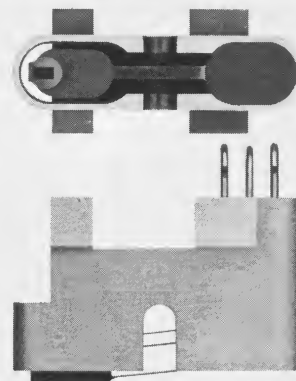
D 5 0 0 D E S I G N D A T A

DIAMETER:	6 to 12 inches
LENGTH:	1 to 18 inches
ECCENTRICITY:	Less than .000050 inches
BEARINGS:	Class 9; factory sealed and lubricated
MOTOR:	Custom designed integral motor, induction or synchronous
ROTATION SPEED:	Speed limits are set by rotating member diameter. Maximum speed for D500 Series drums is 12,000 RPM, at a diameter of 6 inches.
TRACKS PER INCH:	40 nominal
TOTAL STORAGE CAPACITY:	Approximate storage capacity ranges between these limits, according to drum size: 6" diameter x 1" length—570,000 bits phase modulation 12" diameter x 18" length—20,000,000 bits phase modulation
MAXIMUM CLOCK RATE:	2 megacycles
MAGNETIC MEDIUM:	Hard nickel-cobalt plate. By becoming an integral part of the rotating member, the plated surface eliminates dusting and flaking problems inherent with iron oxide coatings. Extreme surface hardness greatly reduces susceptibility to catastrophic failure should foreign matter come in contact with the rotating member.

RECORD-PLAY HEADS

The unique aerodynamic head developed by Magne-Head cuts installation and adjustment time to a fraction of that required for conventional, non-contact heads. To add or replace a head, simply insert it at the desired location and lock it in place, *all without stopping the drum*. Head and head slot design make it virtually impossible to damage either the head or the drum coating during the installation process.

Electrical specifications such as head inductance and drive current requirements may be varied to suit the application.



D50

SERIES

AIRBORNE MAGNETIC MEMORY DRUMS

● **DEPENDABILITY:** *Plated metal magnetic coating provides the optimum recording surface—hard and durable.*

● **CONVENIENCE:** *Record-play heads may be inserted while the drum is running, with no radial adjustment.*

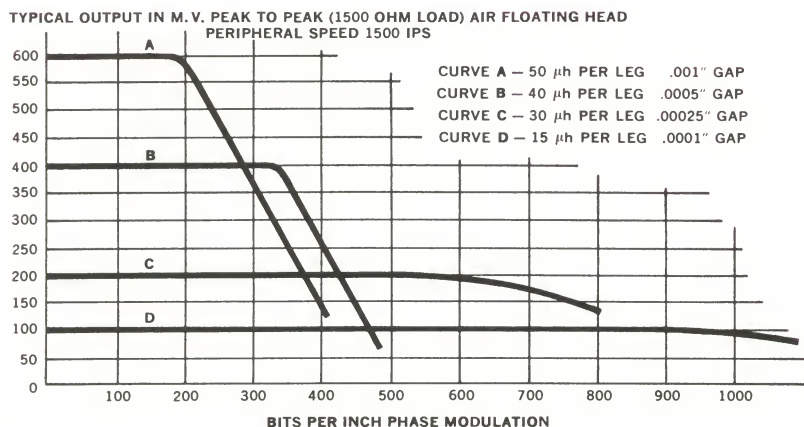
● **CAPACITY:** *Bit packing densities to 2000 per inch NRZ (1000 per inch phase modulation, R.B., or R.Z.)*

● SIGNAL TO NOISE RATIO:
26 db.

● **VERSATILITY:** *Compliance with applicable military specifications—ground, shipboard, airborne.*



Typical D50 Series drum—4" diameter, 3600 RPM.
Other diameters available in the
D50 Series from 3" to 6".



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D50 DRUM

All drums in the small to medium size D50 Series share basic design features. Magne-Head design criteria provide superior performance: more bits per square inch of recording surface, higher output signal levels, and long term maintenance-free operation. To the systems designer, all of this means fewer interface restrictions when integrating the memory subsystem into the total system.

Magne-Head drums meet a broad range of operational requirements because of flexible design within a framework of dependability. Features and design parameters tailored to meet individual application needs include drum size, speed, and motor type...record-play head inductance, head layout, and wiring harness arrangements.

For military systems, D50 Series drums are designed to meet these typical specifications:

Ground Based: MIL-E-4970A and
MIL-E-4158B
Shipboard: MIL-E-16400E
Airborne: MIL-E-5400

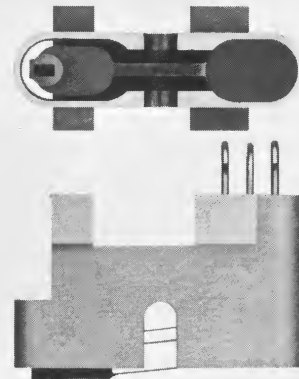
D 5 0 D E S I G N D A T A

DIAMETER:	3 to 6 inches
LENGTH:	1 to 10 inches
ECCENTRICITY:	Less than .000050 inches
BEARINGS:	Class 9; factory sealed and lubricated
MOTOR:	Custom designed integral motor, induction or synchronous
ROTATION SPEED:	Speed limits are set by rotating member diameter. Maximum speed for D50 Series drums is 24,000 RPM, at a diameter of 3 inches.
TRACKS PER INCH:	40 nominal
TOTAL STORAGE CAPACITY:	Approximate storage capacity ranges between these limits, according to drum size: 3" diameter x 1" length—270,000 bits phase modulation 6" diameter x 9" length—5,400,000 bits phase modulation
MAXIMUM CLOCK RATE:	2 megacycles
MAGNETIC MEDIUM:	Hard nickel-cobalt plate. By becoming an integral part of the rotating member, the plated surface eliminates dusting and flaking problems inherent with iron oxide coatings. Extreme surface hardness greatly reduces susceptibility to catastrophic failure should foreign matter come in contact with the rotating member.

RECORD-PLAY HEADS

The unique aerodynamic head developed by Magne-Head cuts installation and adjustment time to a fraction of that required for conventional, non-contact heads. To add or replace a head, simply insert it at the desired location and lock it in place, *all without stopping the drum*. Head and head slot design make it virtually impossible to damage either the head or the drum coating during the installation process.

Electrical specifications such as head inductance and drive current requirements may be varied to suit the application.



MAGNE-HEAD

DATA BULLETIN



D5000

BULK STORAGE MAGNETIC MEMORY DRUM

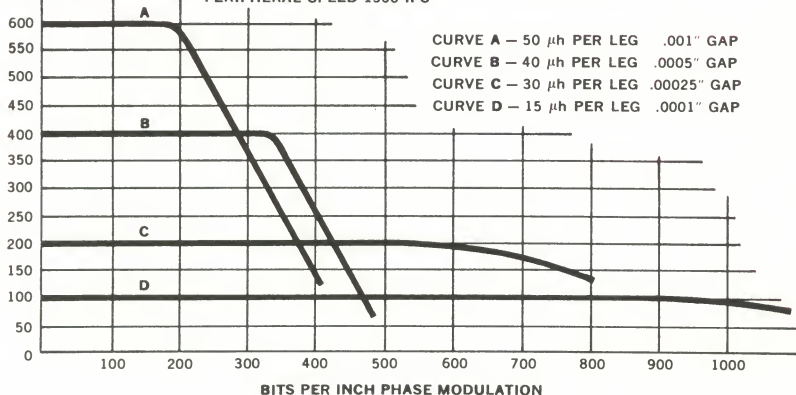
FEATURES:

- **DEPENDABILITY:** *Plated metal magnetic coating provides the optimum recording surface—hard and durable.*
- **CONVENIENCE:** *Record-play heads may be inserted while the drum is running, with no radial adjustment.*
- **CAPACITY:** *Bit packing densities to 2000 per inch NRZ (1000 per inch phase modulation, R.B., or R.Z.)*
- **SIGNAL TO NOISE RATIO:** *26 db.*
- **VERSATILITY:** *Compliance with applicable military specifications—ground, shipboard, airborne.*



Typical section of D5000 Series drum—18" diameter, 1800 RPM. 20,000,000 bit capacity per section, 4 sections can be stacked to expand total bulk storage memory to as many as 80,000,000 bits.

TYPICAL OUTPUT IN M. V. PEAK TO PEAK (1500 OHM LOAD) AIR FLOATING HEAD
PERIPHERAL SPEED 1500 IPS



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D5000 MODULAR DRUM

The D5000 Bulk Storage Magnetic Memory Drum employs a new technique of modular section construction which permits the stacking of sections to expand bulk storage capacity. Each modular section has a total memory capacity of 20,000,000 bits and four sections can be stacked to expand total bulk storage memory to as many as 80,000,000 bits. Each individual section incorporates all of the design features of Magne-Head's D50 and D500 Series of Magnetic Memory Drums.

The modular section drum is ideal for computers designed for bulk storage memory and whose total memory varies as a function of application such as in Process Control and Inventory Control. In applications of this nature, where total bulk storage capacity is an unknown or varying factor, the modular section technique of stacking eliminates the necessity of specifying a special drum for each size of memory and the need for anticipating the optimum memory requirement of the application.

To the systems designer, all of this means fewer interface restrictions when integrating the memory subsystem into the total system.

Magne-Head drums meet a broad range of operational requirements because of flexible design within a framework of dependability. Features and design parameters tailored to meet individual application needs include drum size, speed, and motor type... record-play head inductance, head layout, and wiring harness arrangements.

For military systems, D5000 Series drums are designed to meet these typical specifications:

Ground Based:	MIL-E-4970A and MIL-E-4158B
Shipboard:	MIL-E-16400E
Airborne:	MIL-E-5400

D 5 0 0 0 D E S I G N D A T A

DIAMETER:	18" per section
LENGTH:	12" per section
MAXIMUM NO. OF SECTIONS:	4
ECCENTRICITY:	Less than .000050 inches
BEARINGS:	Class 9; factory sealed and lubricated
MOTOR:	Custom designed integral motor, induction or synchronous
ROTATION SPEED:	900, 1800, 3600 RPM
TRACKS PER INCH:	40 nominal
TOTAL STORAGE CAPACITY:	20,000,000 bits per section
MAXIMUM CLOCK RATE:	2 megacycles
MAGNETIC MEDIUM:	Hard nickel-cobalt plate. By becoming an integral part of the rotating member, the plated surface eliminates dusting and flaking problems inherent with iron oxide coatings. Extreme surface hardness greatly reduces susceptibility to catastrophic failure should foreign matter come in contact with the rotating member.

RECORD-PLAY HEADS

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Electrical specifications such as head inductance and drive current requirements may be varied to suit the application.

